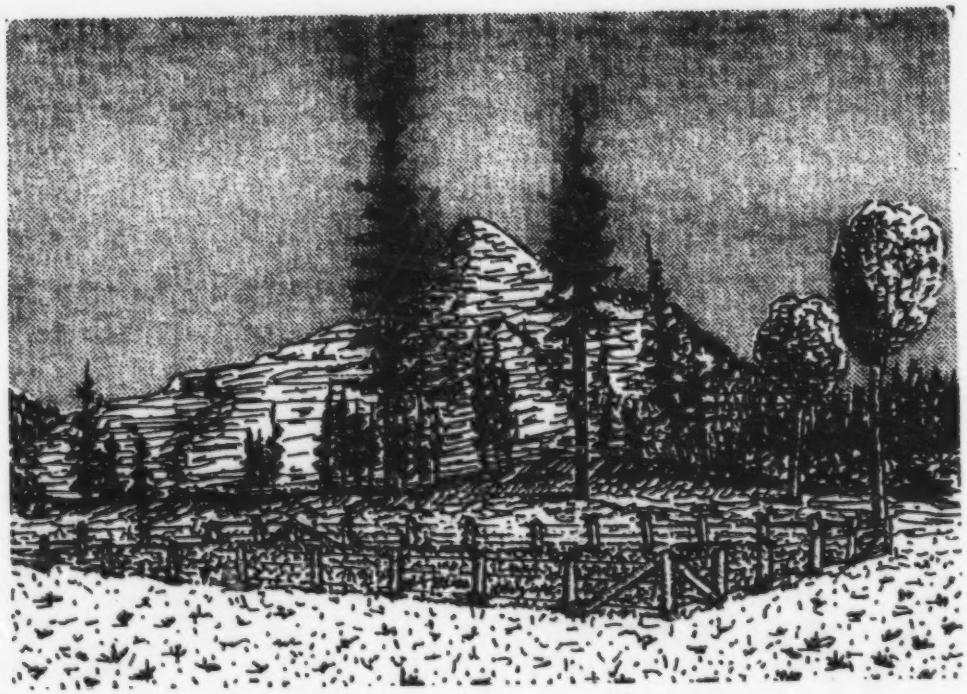
THE ROUGH FESCUE DOMINATED COMMUNITY TYPES IN THE FOOTHILLS OF NORTH-CENTRAL ALBERTA



Alberta

ALBERTA SUSTAINABLE RESOURCE DEVELOPMENT

THE ROUGH FESCUE DOMINATED COMMUNITY TYPES IN THE FOOTHILLS OF NORTH-CENTRAL ALBERTA

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Edmonton
2001

Sustainable Resource Development
Public Lands Division

102-05664/

Pub. No.: T/017
ISBN: 0-7785-1997-X

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ABSTRACT

The fescue grasslands of Alberta are an important grazing resource for both wildlife and domestic livestock. These grasslands are also found in some of the most ecological diverse areas of the province. Looman (1982) described three zones of rough fescue in Alberta, characterized by a different species. In the Northern rough fescue zone, north of 51° N latitude in the foothills of North-central Alberta three undisturbed rough fescue dominated types have been described. These include the Rough fescue-Hairy wildrye dominated community which is found on dry, well-drained sites. On moister sites with deep snow accumulation bog birch will invade to form the Bog birch/Rough fescue/Bearberry dominated community type. In contrast, on moist, rich sites tufted hairgrass co-dominates with rough fescue to form the Rough fescue-Tufted hairgrass dominated community type. This paper will describe and examine the successional relationships of these community types in the presence and absence of disturbance.

INTRODUCTION

Looman (1982) and Hill (1995) recognized three zones of rough fescue in Alberta (Figure 1) each characterized by a different species (Pavlick and Looman 1984). The largest zone (I) included the Foothills and Central Parkland (Strong and Thompson 1995) of east-central Alberta and is dominated by Plains Rough fescue (*Festuca hallii*). The second zone (II) is dominated by Foothills Rough fescue (*F. campestris*) and includes the Foothills fescue, Montane and Subalpine subregions of southwestern Alberta and the Cypress Hills. The third zone (III) is dominated by Northern rough fescue (*F. altaica*) and extends north of 50° N latitude along the foothills and mountains of north-central Alberta and includes the Upper Foothills, Subalpine and Montane subregions.

Classification of the Rough fescue dominated communities have been made by Willoughby et al. (2001) for the Foothills rough fescue zone, but only a limited classification is available for the Northern rough fescue[1] zone. Particularly, it is not clear how the rough fescue grasslands are related between the Upper Foothills, Montane and Subalpine subregions.

The rough fescue grasslands of North-Central Alberta are important locally for grazing by livestock and wildlife. Morgantini and Russell (1983) found that rough fescue made up over 69% of the elk winter diet in the Ya Ha Tinda area. These grasslands are also important in maintaining the local biodiversity. Despite the importance of these grasslands there is little understanding of their ecology. Willoughby (2001) and Willoughby (1999) have identified a Rough fescue-Hairy wildrye, Rough fescue-Tufted Hairgrass and Bog birch/Rough fescue/Bearberry dominated communities in the Upper Foothills and Subalpine subregions within this zone, but no attempt has been made at examining the relationship between these community types across the various subregions. In this paper the data from the rough fescue dominated communities north of 51° N latitude located within the Upper Foothills, Subalpine and Montane subregions were combined in order to determine the similarity and successional relationships of these types.

METHODS

All of the data from the Rough fescue dominated communities identified by Willoughby (2001), Willoughby (1999) and Willoughby et al. (2001) in the Upper Foothills, Subalpine and Montane subregions of Alberta were classified using both cluster analysis (SAS) and ordination (PC-ORD). The data included plots done near the Ya Ha Tinda ranch, Harrison flats, Forty Mile Flats (Upper Clearwater Forest Land Use Zone), Ribbon Flats, Panther Corners and Wilson

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[1]Looman (1969) and Hill (1995) felt that the third rough fescue zone was dominated by Northern rough fescue, but there appears to be extensive overlap between this species and Foothills rough fescue, particularly in the southern part of the zone west of Rocky Mtn. House and Sundre.

Creek range allotment. These data also included rangeland reference area data from, McCue Creek, Yara Creek, Harold Creek, Upper James River, Seven mile burn, Elk Creek and Eagles Nest Cabin (Willmore Wilderness Park) (Weerstra and Willoughby 1998). The reference area data included grazed and ungrazed transects with over 30 years of data from a number of the sites. The initial classification was complicated by the fact that a number of the transects represented grazing and fire disclimax community types. In order to gain a better understanding of the ecology of these sites in the absence of disturbance only the undisturbed transects were reordinated and classified. This left 64 transects which included the inside ungrazed transects from 1981 to 2000 at the Upper James (UJR) and McCue Creek (MC) reference areas, from 1991 to 2000 at the Harold Creek (HC) reference area, from 1998 to 2000 at Eagles Nest cabin (EN) and Wilson Creek allotment (WCT01). The inside and outside transects from 1979 to 1985 at Yara Creek (YC), from 1991 to 2000 at Elk Creek (EC) and the unburned transects at Seven Mile Burn (SMB). Data from Ribbon Creek Flats (RF) prior to brush clearing (MacCallum and Yakimchuk 1992), Panther Corners (PANT)(AGRA 1998) and Forty Mile Flats (FM) were also included in the analysis.

Both the Ya Ha Tinda (YE,YW) and Harrison flats (H) areas of the province have extensive areas of rough fescue grassland that support large herds of elk. In an effort to determine how these disturbed grasslands were ecologically related to the other undisturbed rough fescue dominated community types the Ya Ha Tinda and Harrison transects were reordinated with the summarized species lists of the undisturbed Rough fescue-Hairy wildrye (HWR), Bog birch/Rough fescue/Bearberry (BEGL) and Rough fescue-Tufted hairgrass (TUFT) community types.

Figure 1. Rough fescue dominated zones in Alberta. Adapted from Looman (1982)

Ordination (DECORANA)(Gauch 1982) and cluster analysis (SAS) multivariant techniques combine the sites based on the similarity of species composition. The groupings from cluster analysis were overlain on the site ordination. Soil moisture, nutrients, drainage, elevation and slope data were collected in the procedure outlined in the Ecological Land Survey Site Description Manual (1994). These data were correlated with the ordination axes using PC-ORD in an effort to determine which environmental variables accounted for the most variation in the species-stand table. These data were presented in a species-environment biplot.

Rangeland reference area sites were selected from within range allotments on areas that represented primary range. Originally sites thought to be in poor range condition were selected . These sites were usually represented by open grasslands on south-facing slopes, benchlands and terraces. The reference sites were not located near salt or within 100-ft. (30-m) of a fence. The preferred distance from a water source was greater than 1000-ft. (300-m) but less than 1-mi. (1.6-km). Each reference site consisted of a fenced exclosure and a 100-ft (33-m) transect inside and outside the exclosure. The outside transect was situated 25-ft (8-m) or greater from the edge of the exclosure. At 3-in. (7-cm) intervals, the basal frequency of the plant species were recorded using Parker's loop (Parker 1954). In 1981, the canopy cover of the plant species was also recorded (at 6-ft. (1.8-m) intervals) using a 20x50 cm Daubenmire frame. Presently, the transects are being recorded every three years. All the basal frequency data prior to 1981 was converted to canopy cover using regression analysis.

Transect data from non-rangeland reference area sites were collected in order to develop management plans for the various range allotments. These data were collected using the methodology outlined by Dale et al. (2001).

RESULTS

Species composition

The ordination and cluster analysis of the undisturbed rough fescue dominated communities in zone 3 is outlined in Figures 2 and 3. The first two axes in the ordination accounted for 49% and 16% of the variation in the species stand table, respectively (Figure 2). There is a distinct grouping of the transects done at Yara Creek (YC), McCue Creek (MC), Upper James River (UJR), majority of the Panther Corner transects and Forty Mile flats. These transects are dominated by rough fescue, hairy wildrye and slender wheatgrass and represent the Rough fescue-Hairy wildrye community type. The transects located at Harold Creek (HC), Eagles Nest (EN) and Wilson Creek (WCT) were all dominated by rough fescue and tufted hairgrass and they grouped together to form the the Rough fescue-Tufted hairgrass dominated community type.

The final grouping was all of the transects that were dominated by bog birch, rough fescue and bearberry. These included the Seven Mile Burn, Ribbon Flats, Elk Creek and a number of transects located within Panther Corners. Both the cluster analysis (Figure 3) and ordination (Figure 2) indicated that the Rough fescue-Tufted hairgrass and Rough fescue-Hairy wildrye dominated community types were much more similar than the transects dominated by rough fescue, bearberry and bog birch. Indeed, cluster analysis indicated that the Rough fescue-Tufted hairgrass transects grouped together within the larger Rough fescue/Hairy wildrye dominated group (Figure 3).

Figure 2. Ordination of undisturbed Rough fescue dominated plots in Zone III.

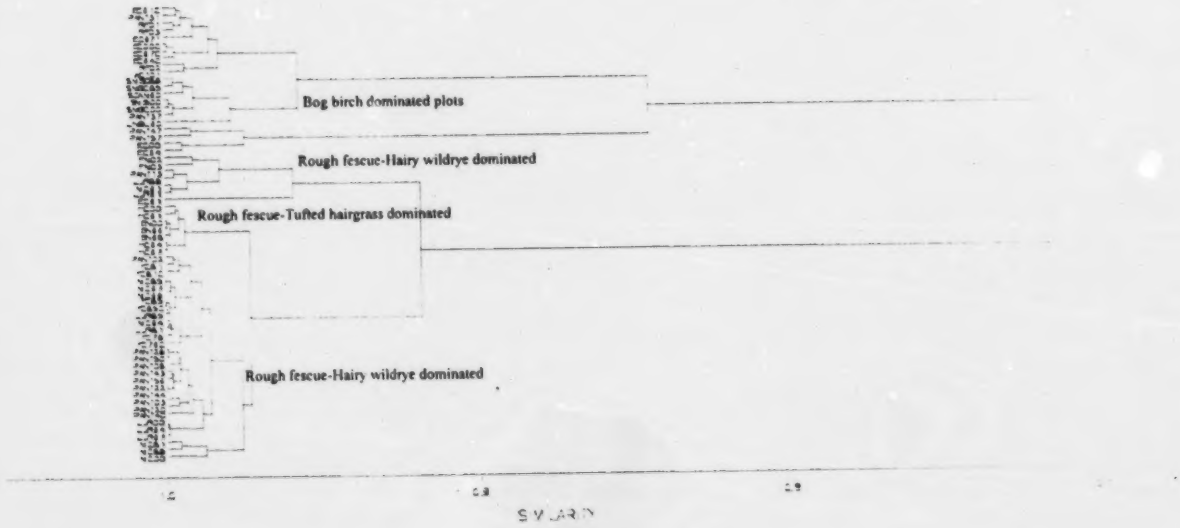

Bog birch dominated plots
Rough fescue-Hairy wildrye dominated
Rough fescue-Tufted hairgrass dominated
Rough fescue-Hairy wildrye dominated

Figure 3. Cluster analysis of undisturbed Rough fescue plots in Zone III.

The species-environment biplot is outlined in Figure 4. Species characteristics of the Bog birch/Rough fescue/Bearberry community, bog birch (betugla), bearberry (arctuva), oatgrass (dantcal, dantpar), willow (salimyr, salispp, salibeb), scapose hawk's beard (creprun), blueberry (vacccae), alpine bistort (polyviv), valeriana (valesit), graceful sedge (carepre) were found on the right side of axis one and were situated around the ordinates of higher moisture and higher (poorer) drainage.

In contrast species characteristic of the Rough fescue-Hairy wildrye community, shrubby cinquefoil (potefru), rose (rosaaci), fringed and prairie sage (artefri,artelud), white scaled sedge (carexer), browned eyed susan (gailari), locoweed (oxytmon, oxytser), junegrass (koelmac), cut leaved anemone (anemmul) and bog sedge (kobrmyo) were found on the left side of axis 1 and

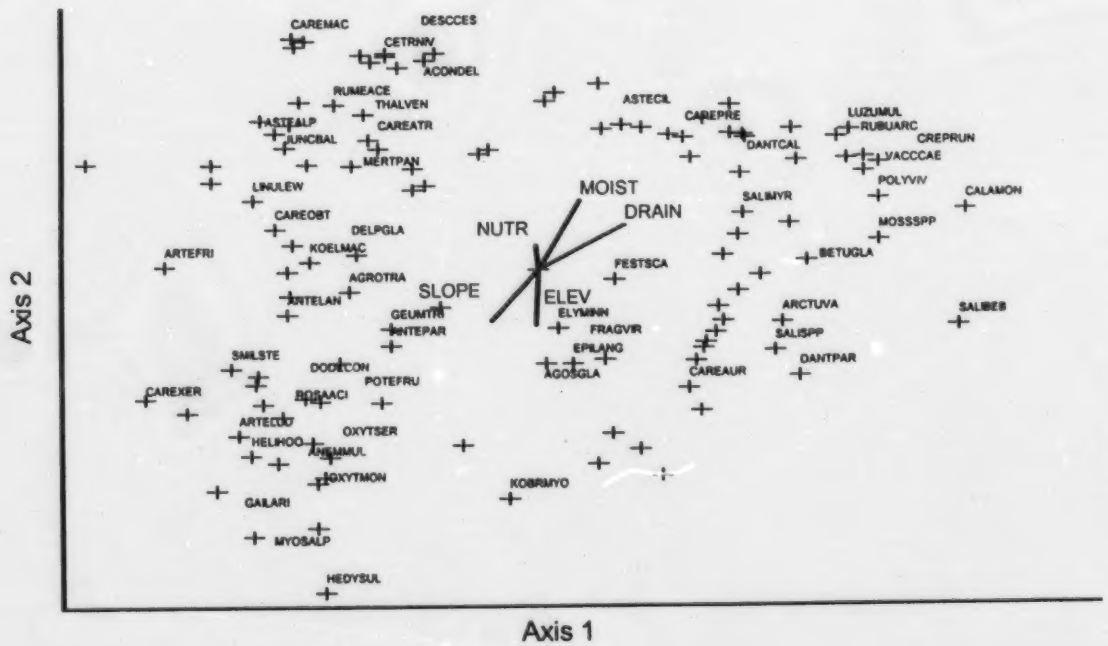


Figure 4. Biplot ordination of selected plant species and environmental variables for all undisturbed rough fescue dominated transects in zone III.

bottom of axis 2 and tended to have lower moisture, nutrients and were more rapidly drained. Many of these plots were also found at higher elevations and were located on steep south facing slopes. Species characteristic of the Rough fescue-Tufted hairgrass community, tufted hairgrass

(descces), monkshood (acondel), veiny meadow rue (thalven), thick-spiked and long-bracted sedges (caremac, careatr), tall lungwort (mertpan), dock (rumeace), arctic rush (juncbal) were found at the top of axis 2. These species were correlated with higher moisture and were found on somewhat richer sites. Species that were common to all three types tended to be found in the middle of the ordination rough fescue (festsca), hairy wildrye (elyminn), slender wheatgrass (agrotra), old man's whiskers (geumtri), strawberry (fragvir), mountain dandelion (agosgla), blunt sedge (careobt), flax (linulew), shooting star (dodecon) and fireweed (epilang).

Table 1 outlines the differences in species composition between the various community types. All three community types were dominated by rough fescue which was not significantly different between the types. The Rough fescue-Hairy wildrye community type had a significantly higher cover of shrubby cinquefoil and slender wheatgrass than the Rough fescue-Tufted hairgrass or Rough fescue/Bearberry/Bog birch community types. In contrast, the Rough fescue-Tufted hairgrass had a significantly higher cover of tufted hairgrass than the other community types and the Rough fescue/Bearberry/Bog birch community had the highest cover of bog birch, bearberry and oatgrass species (Parry and California) (Table 1).

Table 2 outlines the physical characteristics of each plant community type. The soils of each community type are very similar ranging from Orthic Eutric and Melanic Brunisols on the Rough fescue-Hairy wildrye and Bog birch/Rough fescue/Bearberry communities to Cumulic and Orthic Regosols on the Rough fescue-Tufted hairgrass community. All of the communities have fluvial and lacustrine parent materials and their textures range from loamy at the surface to Clay loams and Silty Clay Loams at depth. The pH ranges from 5-8 and the depth of the Ah horizon averages from 3-10 cm for all community types. The Rough fescue-Tufted hairgrass or Bog birch/Rough fescue/Bearberry community is slightly moister ranging from mesic to subhygric, than the Rough fescue-Hairy wildrye community type which has a submesic to mesic moisture regime. The Rough fescue-Tufted hairgrass community also has slightly poorer drainage and higher nutrients than the other community types with gleying at depth at one site.

Table 1. Canopy cover of selected species in each of the three rough fescue dominated community types in Zone III.

Species	Rough fescue-Hairy wildrye	Rough fescue-Tufted hairgrass	Rough fescue Bearberry/Bog birch
Shrubs			
SHRUBBY CINQUEFOIL (*Potentilla fruticosa*)	4a*	1b	1b
BOG BIRCH (*Betula glandulosa*)	0b	Tb	32a
Forbs			
OLD MAN'S WHISKERS (*Geum triflorum*)	9a	2c	6b
COMMON YARROW (*Achillea millefolium*)	3a	3a	3a
GRACEFUL CINQUEFOIL (*Potentilla gracilis*)	4a	2a	Ta
AMERICAN VETCH (*Vicia americana*)	3a	Ta	1a
MOUNTAIN DANDELION (*Agoseris glauca*)	1a	Ta	1a
VEINY MEADOW RUE (*Thalictrum venulosum*)	1b	4a	1b
TALL LARKSPUR (*Delphinium glaucum*)	2a	Tb	1b
BEARBERRY (*Arctostaphylos uva-ursi*)	1b	Tb	10a
Grasses			
NORTHERN AND FOOTHILLS ROUGH FESCUE (*Festuca altaica, F. campestris*)	21a	17a	28a
HAIRY WILDRYE (*Elymus innovatus*)	5a	5a	4a
SLENDER WHEATGRASS (*Agropyron trachycaulum*)	7a	3b	3b
SEDGE SPECIES (*Carex obtusata, C.siccata C.praegracilis, C. atrosquama*)	9a	9a	9a
TUFTED HAIRGRASS (*Deschampsia cespitosa*)	Tb	12a	Tb
JUNEGRASS (*Koeleria macrantha*)	1a	Tb	1b
CALIFORNIA OATGRASS (*Danthonia californica*)	Tb	0b	3a
PARRY OATGRASS (*Danthonia parryi*)	Tb	0b	2a
BOG SEDGE (*Kobresia myosuroides*)	1a	0a	Ta

*Means with the same letter within a row are not significantly different according to an LSMEANS test at the 0.05 level .

Table 2. Site characteristics of the three undisturbed rough fescue dominated community types in Zone III.

Site characteristics	Rough fescue -Hairy wildrye	Rough fescue -Tufted hairgrass	Rough fescue/ Bearberry/ Bog birch
Soil (subgroup)	O. Melanic Brunisol[1] O.Eutric Brunisol[7] O. Humic Regosol[2]	Cumulic Regosol[5] Orthic Regosol[5]	O.Eutric Brunisol[10]
Parent material	Fluvial, Colluvial apron, Glacial fluvial	Fluvial, Glacial Fluvial	Lacustrine, over glacial till
Surface Texture	L	L	L
Effective texture	CL, SiL, SiCL, SiC	CL, SiCL	CL, SiL, SiC
pH	5-8	5-6.5	5-8
Ah thickness (average)	2-27(10)	2-4(3)	2-5(4)
Humus form	Mor, Mull	Mor	Mull, Mor
Depth to Gleying	None	None, 60cm	None
Moisture	Submesic, Mesic	Mesic, Subhygric	Mesic, Subhygric
Nutrient	Mesotrophic, Permesotrophic	Mesotrophic, Permesotrophic	Mesotrophic
Drainage	Well	Moderately well, Well	Well
Elevation (m)	1470-2150	1370-1737	1300-1981
Aspect	Level, South	North, East,South	Level, South
Slope (%)	0-22(9)	2-3(2)	1-2(1)
Number of Soil Pits	10	2	4

1 Indicates percentage of soil pits with this soil subgroup (ie 1=10%)

Ya Ha Tinda, Harrison Flats

The ordination of the Ya Ha Tinda (YE, YW) and Harrison flats (H) transects with the summarized undisturbed rough fescue community types is outlined in Figure 5.

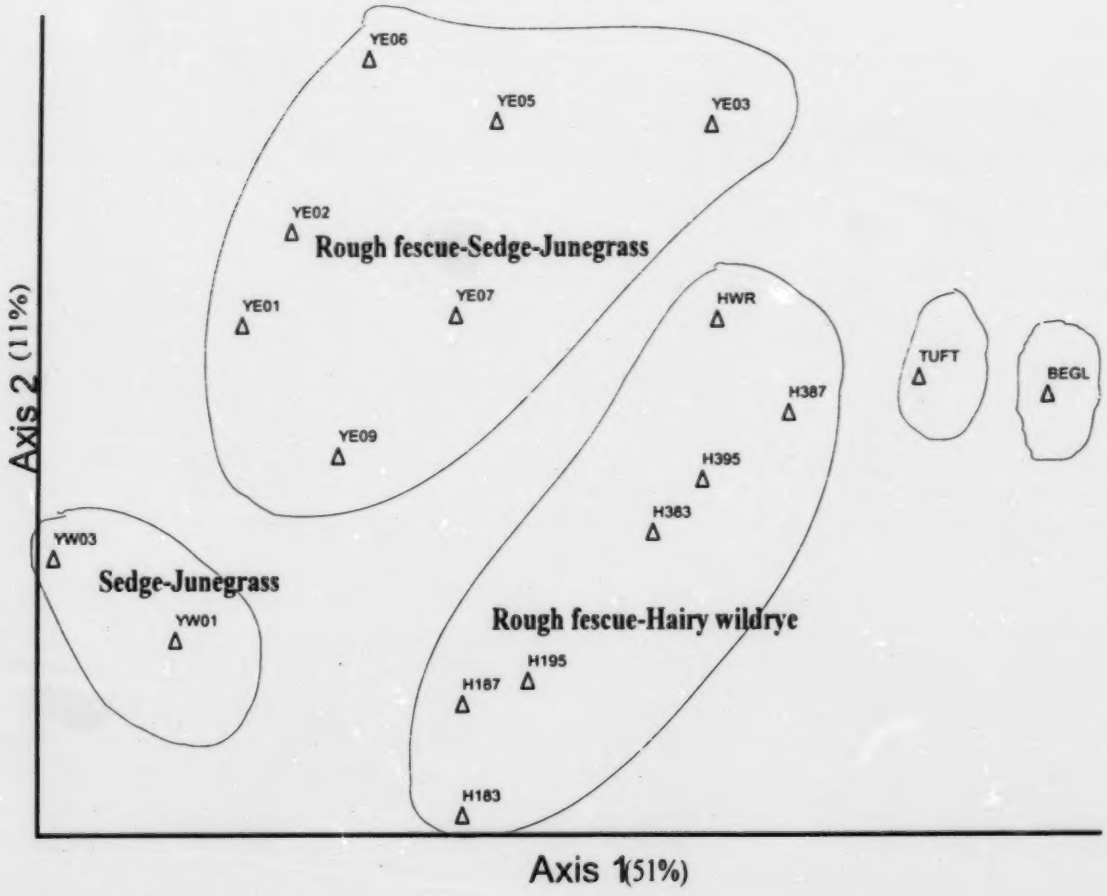


Figure 5. Ordination of Ya Ha Tinda and Harrison flats transects with the summarized undisturbed rough fescue dominated community types in Zone III

The first two axes accounted for 51% and 11% of the variation in the species-stand table respectively. The ordination indicates that the Ya Ha Tinda and Harrison flat grasslands have a closer affinity with the Rough fescue-Hairy wildrye (HWR) community than either the Rough fescue-Tufted hairgrass (TUFT) or Bog birch/Rough fescue/Bearberry (BEGL) dominated

community types.

There is a distinct grouping of the Ya Ha Tinda plots into two community types. The first type was described on grasslands east of Scalp Creek (YE). These transects were dominated by shrubby cinquefoil, rough fescue or sedge, junegrass, fringed brome, old man's whiskers and early yellow locoweed and represent the Rough fescue-Sedge-Junegrass community type (Willoughby et al. 2001). This community type was the most extensive grassland community described in the Ya Ha Tinda area. The other community type was described west of Scalp Creek near the Ya Ha Tinda ranch buildings. The transects (YW) in this community were dominated by shrubby cinquefoil, sedge, junegrass, Kentucky bluegrass, showy locoweed and cut leaved anemone. These transects represented a Sedge-Junegrass community type.

In contrast the Harrison flats transects were the most similar to the summarized Rough fescue-Hairy wildrye (HWR) community and were dominated by shrubby cinquefoil, rough fescue, sedge, junegrass, old man's whiskers and early yellow locoweed. The dominant species on the Harrison transects are very similar to the dominant species at the Ya Ha Tinda, but the cover of rough fescue averaged 35% at Harrison flats in comparison to only 10% at the Ya Ha Tinda (Appendix 1).

DISCUSSION

The rough fescue dominated grasslands follow the creeks and river valleys throughout the foothills of the Rocky Mountains north of Calgary to Willmore Wilderness park near Grande Cache. The topography of the area consists of both mountains and foothills. Closed-canopy coniferous forest dominates the area with potential climax species on modal sites being white and black spruce with lodgepole pine as an early successional species (Strong 1992). The valley bottoms have predominant willow and bog birch cover with pockets of open grassland. The south facing slopes are also covered by grassland.

The rough fescue dominated grasslands are generally found on mesic to subhygric, well drained sites within these valley bottoms and on lower slope positions of south facing slopes. On moister and richer sites tufted hairgrass and graceful sedge often replaces rough fescue as the dominate species in the community. On steep dry south facing slopes hairy wildrye, junegrass, sedge species and fringed sage tend to dominate (Willoughby 2001).

Soil moisture and nutrients appear to account for most of the variation within the ordination of the undisturbed rough fescue dominated community types. Moisture is a major limiting factor limiting the distribution of plants (Krebs 1978). In this study it appears there was a definite species response to a moisture and nutrient regime gradient. Species characteristic of moist, medium rich sites included bog birch, willow, graceful sedge, and alpine bistort. These species were indicative of the Bog birch/Rough fescue/Bearberry community type. Species characteristic of moist, rich sites included tufted hairgrass, long-bracted sedge, monkshood, tall lungwort and dock. These species were characteristic of the Rough fescue-Tufted hairgrass community type. In contrast species characteristic of dry, well drained, medium to rich sites included bog sedge, fringed sage, shrubby cinquefoil and locoweeds. These species were characteristic of the Rough fescue-Hairy wildrye community type.

Plant community ecology

Bog birch/Rough fescue/Bearberry

de Groot (1998) found that bog birch tended to prefer moist, acidic, nutrient poor organic soils which were well drained. Anderson (1975) also found that bog birch is very sensitive to extremely cold winter temperatures, but can survive temperatures to as low as -27°C if sufficient snowfall occurs. The presence of bog birch on these rough fescue dominated grasslands may indicate sites which have deeper snow accumulations, which insulate bog birch from the extreme winter conditions. The deeper snow accumulations would also increase soil moisture in the spring further favouring bog birch growth. The surface of this community is well drained and dries out quickly in the summer favouring the growth of rough fescue, junegrass, bearberry, Parry oatgrass and California oatgrass plant species.

Repeated fire (every few years) reduces bog birch canopy cover and above ground biomass, but has only a minimal effect on bog birch mortality (de Groot 1998, Bork et al. 1996). Bork et al. also found that burning bog birch three times in 9 years controlled shrub growth and increased forage production by over 40% compared to the unburned control. The increase in bog birch cover in the absence of fire is evident from the pictures taken at the Elk Creek rangeland reference area from 1968 to 2000 (Photo 1).

Rough fescue-Hairy wildrye

The Rough fescue-Hairy wildrye dominated community is found on submesic to mesic, well drained sites. This community can also be found on south facing slopes in lower slope positions where some moisture accumulates (Willoughby 2000). In the absence of grazing and fire it appears this community type will eventually succeed to conifer forest (Willoughby 2000), but the time frame for complete tree invasion appears to be greater than 60 years. Willoughby also found that increased grazing pressure by domestic livestock leads to a decline in rough fescue and other native species and allows species like Kentucky bluegrass and dandelion to dominate the site to form a Kentucky bluegrass-Sedge dominated community type.

Initial analysis of the Ya Ha Tinda ranch and Harrison flats rough fescue dominated grasslands indicated that these grasslands were very different from the other undisturbed rough fescue dominated types. Work by Looman (1969), found that these grasslands supported a large elk herd during the winter when they remained snow free. It would appear that this heavy dormant season grazing has altered the community structure so that these grasslands do not resemble the other undisturbed or grazed Rough fescue-Hairy wildrye community types. Bailey et al. (1988) found that heavy dormant season grazing lowered plains rough fescue cover and allowed species like junegrass, sedge, slender wheatgrass, fringed sage and pussytoes to increase in the Aspen parkland. They also found that forage production was significantly lower under

1968

2000

Photo 1: The lack of fire has allowed bog birch cover to increase on both the grazed and ungrazed transects at the Elk Creek rangeland reference area from 1968 to 2000.

heavy dormant season grazing compared to the ungrazed control. They concluded that heavy dormant season grazing was having the same impact on the community as a light June grazing treatment. It would appear that the heavy grazing by wildlife during the winter is having a similar affect on the majority of the Ya Ha Tinda grasslands.

The other Ya Ha Tinda grassland community type (Sedge-Junegrass) that was described by Willoughby et al. (2001) was found in an area where the Ya Ha Tinda ranch feeds hay to horses during the winter. The horses also graze this area early in the spring. This grazing pressure has allowed Kentucky bluegrass to invade onto this community type and it would appear that this community type is succeeding to a community that is similar to a number of the grazed transects of the rangeland reference areas to the east of the ranch in the Red Deer river valley (Willoughby 2000).

It would appear that the grasslands of the Ya Ha Tinda represent grazing disclimax community types. If protected from grazing these grasslands would likely succeed to a community type that is similar to the undisturbed Rough fescue-Hairy wildrye dominated type.

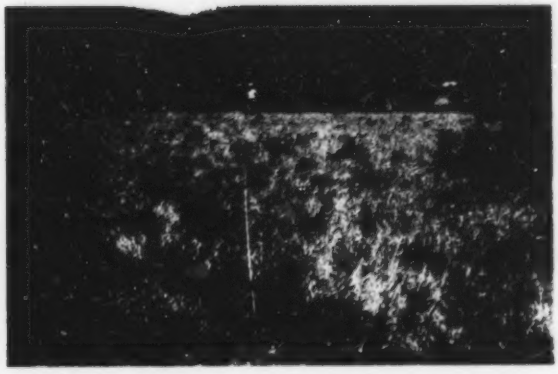
Rough fescue-Tufted hairgrass

The Rough fescue-Tufted hairgrass community is found on moderately well drained, subhygric, rich sites. This community type appears to represent the transition between the drier Rough fescue-Hairy wildrye community and the moister and richer Tufted hairgrass-Sedge dominated community type (Willoughby 2001). Willoughby (1998) found a 25% increase in shrub cover in only 25 years on the Tufted hairgrass-Sedge community type, but this community type is rarely shrub covered. Photos taken at the Harold Creek rangeland reference area in 1963 and again in 2000 show little shrub expansion in over 30 years of no disturbance (Photo 2). Lane et al. (2001), have found that there has only been an 18% increase in shrub cover on this community type in Willmore Wilderness Park in over 40 years. Presently it is not clear why shrub expansion is slower in this community type.

Continued grazing pressure causes rough fescue to decline and initially tufted hairgrass and sedge increase in cover. However, continued grazing pressure causes a further decline in all native species and the site will become dominated by Kentucky bluegrass, dandelion and clover species (Willoughby 2001). In Willmore where there is little seed source for Kentucky bluegrass and these heavily grazed Rough fescue-Tufted hairgrass types are often dominated by alpine timothy, slender wheatgrass, sedge and tufted hairgrass. Many of the sites have also been invaded by tall buttercup.

SUMMARY

The fescue grasslands of Alberta represent some of the most ecologically diverse areas of the province. Historically, the desired plant community of these grasslands was one that maximized beef production, which has led to a decline in condition of many of these grassland communities. In recent years there has been a movement towards more sustainable use of our natural resources. The scope of sustainability has shifted from being defined by economic assessement to include broader sustainability of ecological functions and patterns (Lee and



1963

1994

Photo 2: In over 30 years of protection from grazing and fire there has been little shrub expansion at the Harold Creek rangeland reference area. However, shrub expansion has continued on the moister sites in the background

Hanus 1998). Today society desires the conservation of native plant communities. In North-central Alberta these rough fescue dominated grasslands are important locally for both wildlife and domestic livestock. They also contribute to the local biodiversity of the area. Despite their importance there is only limited understanding of their ecology. This paper describes and presents a classification of the rough fescue dominated community types of the foothills of North-central Alberta. This classification recognizes three rough fescue dominated community types and outlines the successional relationships of each type. Hopefully, this classification can be used to ensure the conservation of these native grasslands.

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APPENDIX ONE:

VEGETATION SPECIES LISTS FOR THE VARIOUS PLANT COMMUNITY TYPES: INCLUDES YA HA TINDA AND HARRISON FLATS

Group name: Rough fescue-Hairy wildrye

			Avg	Avg	Plots																							
					MC81I		MC85I		MC88I		MC91I		MC94I		MC97I		MC99I		MC00I		YC79I		YC79O		YC81I		YC81O		YC85I	
			% P	MC	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																										
5	1	POTEFRU	77.1	03.8	01		01		00		01		02		01		03		01		03		03		05		05		01	
	2	ARCTUVA	11.4	00.6																	02									
	3	ROSAACI	08.6	00.1																										
	4	POPUTRE	05.7	00.0																										
	5	POTEGRA	05.7	00.0																										
6	6	POTEGRA	97.1	03.5	05		02		05		00		01				01		08		03		03		04		08		01	
	7	ACHIMIL	94.3	03.3	07		02		05		02		02		01		04		09		03		03		05		01		01	
	8	GALIBOR	91.4	02.4	04		01		02		01		00		00		01		04						04		05		02	
	9	GEUMTRI	88.6	09.0	30		12		34		07		08		14		10		22		08		09		12		14		04	
	10	VICIAME	88.6	02.5	00		00		00		00		00		00		00		00		02				09		16		01	
	11	AGOSGLA	82.9	01.2	00				00		00		01		00		01		02		02		03		00		03		00	
	12	CERAARV	80.0	00.5			00		00		00		01		00		00		01											
	13	CAMPROT	77.1	00.7			00		00				00		00		00		00						00		00		00	
	14	DELPGLA	74.3	02.1	02		01		08		01		02		04		05		10						02		00		02	
	15	TARAOFF	65.7	01.3	01		01		01				00		01		01		02				02		00		04		00	
	16	THALVEN	62.9	01.4	06		01		02		01		01		00		00		02				02				01		00	
	17	FRAGVIR	57.1	01.8	00		00		00												02		07				18		01	
	18	DODECON	48.6	00.4					00		00		00		00		00		00				03							
	19	ASTELAE	45.7	00.7			00		00				00		01		01						04		01		02		01	
	20	EPILANG	40.0	01.4																	02				16		02		08	
	21	ANEMMUL	40.0	00.4	01		00		00																		01			
	22	ASTRALP	40.0	00.4			00				00		00				00		01								03		00	
	23	LINULEW	34.3	00.4	00		02		00		00		04		01		00		01											
	24	ALLICER	34.3	00.2																	02		02		00		00		00	
	25	ZIZIAPT	34.3	00.1	00		00		00		00		00		00		00		00								00			
	26	SMILSTE	31.4	00.6																	04		02		07		00		03	
	27	OXYTSER	28.6	00.9																							00			
	28	HEDYBOR	25.7	00.8																										
	29	MERTPAN	22.9	01.7																			04				00			
	30	ANTEPAR	22.9	00.3																										
	31	STELLON	22.9	00.2									00		00		00				02		03							
	32	RUMEACE	22.9	00.1					00				00		00		01		00										00	
	33	VIOLADU	20.0	00.2			00		01		00				00				00		02		02							
	34	SOLIMIS	17.1	00.2																							01			
	35	LATHOCH	17.1	00.1																			02				02			
	36	OXYTMON	14.3	00.4			00																02		00					
	37	ARTEFRI	14.3	00.2																										
	38	MYOSALP	14.3	00.1																										
	39	GENTAMA	14.3	00.1					00				00						01											
	40	ASTECIL	11.4	00.1															03											

(Continued)

RESOURCE INVENTORY, EDMONTON ALBERTA

Group name: Rough fescue-Hairy wildrye

					Plots																							
			Avg	Avg	MC81I		MC85I		MC88I		MC91I		MC94I		MC97I		MC99I		MC00I		YC79I		YC79O		YC81I		YC81O		YC85I	
			% P	MC	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																										
6	41	ERIGSPP	11.4	00.1																								
	42	RUMEOCC	11.4	00.1																								
	43	SOLIMUL	11.4	00.1																					01		00	
	44	HEUCRIC	11.4	00.1																								
	45	GAILARI	11.4	00.0																				04			01	
	46	ARTELUD	08.6	00.3																								
	47	ASTEALP	08.6	00.1																								
	48	PENSPRO	08.6	00.0	00						00																	
	49	TRIFREP	08.6	00.0																								
	50	BOTRLUN	08.6	00.0											00		00		00									
	51	HEDYALP	05.7	00.2																	02		02					
	52	GERARIC	05.7	00.1																								
	53	ANDRSEP	05.7	00.0																								
	54	SENEPAU	05.7	00.0																								
	55	ARABHIR	05.7	00.0													00		00									
	56	ASTECON	05.7	00.0	00																							
	57	GEUMALE	05.7	00.0																								
	58	POTEANS	02.9	00.1																								
	59	HEDYSUL	02.9	00.1																								
	60	ANDRCHA	02.9	00.1																			02					
	61	PLANMAJ	02.9	00.1																								
	62	CASTFLA	02.9	00.1																								
	63	POTEDIV	02.9	00.0																								
	64	HETEVIL	02.9	00.0																								
	65	POTEPEN	02.9	00.0																					00			
	66	SONCARV	02.9	00.0																								
	67	HIERCYN	02.9	00.0																								
	68	ANTELAN	02.9	00.0															00									
	69	HIERUMB	02.9	00.0																								
	70	VALEDIO	02.9	00.0																								
	71	MIMUGUT	02.9	00.0																								
	72	POLEPUL	02.9	00.0					00																			
	73	GENTGLA	02.9	00.0																								
	74	POTEFRU	02.9	00.0																								
	75	RANUCAR	02.9	00.0									00															
	76	SISYMON	02.9	00.0																								
	77	ANAPMAR	02.9	00.0													1		00									
	78	OXYTSPL	02.9	00.0																								
	79	GENTCAL	02.9	00.0																								
	80	PENSCON	02.9	00.0									00															

(Continued)

Group name: Rough fescue-Hairy wildrye

			Avg	Avg	Plots																							
					MC81I		MC85I		MC88I		MC91I		MC94I		MC97I		MC99I		MC00I		YC79I		YC79O		YC81I		YC81O		YC85I	
			% P	MC	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																										
6	81	POTEARG	02.9	00.0							00																	
	82	ZIGAELE	02.9	00.0																								
	83	ARNICHA	02.9	00.0																								
	84	GEUMMAC	02.9	00.0																								
	85	POLEACU	02.9	00.0																								
	86	RHINMIN	02.9	00.0																								
7	87	FESTSCA	0100	20.7	15		05		37		47		29		14		07		09		17		15		12		19		01	
	88	AGROTRA	91.4	06.8	04		01		01		15		13		04		10		18		14		11		08		10		01	
	89	ELYMINN	66.6	04.6							01																		02	
	90	KOELMAC	62.9	01.3					01								03		07		07		06		00				00	
	91	BROMCIL	45.7	01.5					03		00		04		04				13						00		01		01	
	92	JUNCBAL	42.9	00.8					00								00		01		02								00	
	93	POA PRA	42.9	00.5	02		00						00		00								02				01			
	94	CAREOST	37.1	03.5			02		16		18		09		06		10		05		11		24		00				02	
	95	BROMINE	31.4	00.8			01												00											
	96	HELIHOO	31.4	00.2															27											
	97	CAREPRE	25.7	01.9																										
	98	POA SPP	17.1	00.3																										
	99	CARESPP	14.3	01.0																										
	100	CAREXER	14.3	01.0																										
	101	FESTSAX	14.3	00.2									00		00															
	102	PHLEPRA	11.4	00.0																										
	103	FESTIDA	08.6	00.2			00										00													
	104	CAREATR	08.6	00.2																									00	
	105	BROMPUM	08.6	00.2													04		01											
	106	KOBRMYO	05.7	01.4																										
	107	CARESP2	05.7	00.3																										
	108	DANTPAR	05.7	00.3																										
	109	AGROSMI	05.7	00.2																										
	110	HIERODO	05.7	00.1																			02				00			
	111	DANTCAL	05.7	00.1																										
	112	FESTOVI	05.7	00.0																										
	113	DESCCES	05.7	00.0																										
	114	CARESP1	02.9	00.3																										
	115	CARESIC	02.9	00.3													09													
	116	STIPVIR	02.9	00.3															02											
	117	CAREFIL	02.9	00.1																										
	118	AGROELY	02.9	00.0																										
	119	POA ALP	02.9	00.0																										
	120	AGROSTO	02.9	00.0																										

(Continued)

Group name: Rough fescue-Hairy wildrye

			Avg	Avg	Plots																							
					MC81I		MC85I		MC86I		MC91I		MC94I		MC97I		MC99I		MC00I		YC79I		YC79O		YC81I		YC81O		YC85I	
			% P	MC	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																										
S	121	OXYTSER	02.9	00.0																								
	122	MOSSSPP	02.9	00.0																								
	123	ANEMMUL	02.9	00.0																								
	124	AGOSGLA	02.9	00.0																								
	125	DODECON	02.9	00.0																								

(Continued)

Group name: Rough fescue-Hairy wildrye

			Plots																									
			YC85O		UJR81I		UJR85I		UJR88I		UJR91I		UJR94I		UJR97I		UJR00I		PANT02		PANT13		PANT03		PANT43		PANT50		PANT26	
			Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																										
5	1	POTEFRU	01																06		05		06		08		02		07	
	2	ARCTUVA																											02	
	3	ROSAACI																												
	4	POPUTRE																							00					
	5	POTEGRA			00				00																					
6	6	POTEGRA	01		07		03		09		00		00		01		02		10		11		05		02		04		03	
	7	ACHIMIL	01		02		05		03		02		06		02		04		05		03		07		02		06		00	
	8	GALIBOR	01		06		08		05		05		05		03		03		02		03		01		00		01		01	
	9	GEUMTRI	06		02		02		07				03		01		03		11		08		02		12		05		11	
	10	VICIAME	01		01		00		00		02		04		02		02		03		02		07				05		03	
	11	AGOSGLA	00		00		00		00		01		01		03		03				01								00	
	12	CERAARV	00		00		00		00				01		00		00		00		02				00		00		00	
	13	CAMPROT	00				00				00		01		01		00		02		04		00		00				00	
	14	DELPGLA			01		01		04		03		02		02		05		01		07		00				02		01	
	15	TARAOFF	01		00		00		02		02		01		01		01		03		00		11							
	16	THALVEN	00		01		06		07		02		03		01		02		02				00							
	17	FRAGVIR	04		00		00		00										04		01		03				03		01	
	18	DODECON									01				00		00		00										01	
	19	ASTELAE	01										00						04				01				00			
	20	EPILANG	02		00														07		00		06						00	
	21	ANEMMUL																	01						00				00	
	22	ASTRALP	00						00										01				01							
	23	LINULEW			00																00		00							
	24	ALLICER	00																00						00					
	25	ZIZIAPT			00				00		00																			
	26	SMILSTE							00				00		00															
	27	OXYTSER																					00		01				00	
	28	HEDYBOR																	04				00		00					
	29	MERTPAN			00		00		05		06		11		14		15													
	30	ANTEPAR	00																01											
	31	STELLON											00		00		00													
	32	RUMEACE											00				01													
	33	VIOLADU																							00				00	
	34	SOLIMIS																					00						00	
	35	LATHOCH	00		00																									
	36	OXYTMON	01																						01					
	37	ARTEFRI																							00					
	38	MYOSALP																												
	39	GENTAMA							00																					
	40	ASTECIL													00		00													

(Continued)

RESOURCE INVENTORY, EDMONTON ALBERTA

Group name: Rough fescue-Hairy wildrye

			Plots																									
			YC850		UJR81I		UJR85I		UJR88I		UJR91I		UJR94I		UJR97I		UJR00I		PANT02		PANT13		PANT03		PANT43		PANT50		PANT26	
			Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																												
6	41	ERIGSPP																	01											
	42	RUMEOCC			00		00		00						00															
	43	SOLIMUL					00																							
	44	HEUCRIC	00																						00					
	45	GAILARI																												
	46	ARTELUD																												
	47	ASTEALP			00		00		01										00											
	48	PENSPRO																												
	49	TRIFREP			00		00		00																					
	50	BOTRLUN																												
	51	HEDYALP																												
	52	GERARIC																												
	53	ANDRSEP																												
	54	SENEPAU																												
	55	ARABHIR																												
	56	ASTECON			00																									
	57	GEUMALE			00		00																							
	58	POTEANS																												
	59	HEDYSUL																												
	60	ANDRCHA																												
	61	PLANMAJ																												
	62	CASTFLA																											01	
	63	POTEDIV																												
	64	HETEVIL																												
	65	POTEPEN																												
	66	SONCARV															00													
	67	HIERCYN											00																	
	68	ANTELAN																												
	69	HIERUMB																	00											
	70	VALEDIO																												
	71	MIMUGUT																												
	72	POLEPUL																												
	73	GENTGLA															00													
	74	POTEFRU																												
	75	RANUCAR																												
	76	SISYMON															00													
	77	ANAPMAR																												
	78	OXYTSPL																												
	79	GENTCAL			00																									
	80	PENSCON																												

(Continued)

Group name: Rough fescue-Hairy wildrye

			Plots																							
			YC850		UJR81I		UJR85I		UJR88I		UJR91I		UJR94I		UJR97I		UJR00I		PANT02		PANT13		PANT03		PANT43		PANT50		PANT26	
			Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																												
6	81	POTEARG																												
	82	ZIGAELE																												
	83	ARNICHA							00																					
	84	GEUMMAC							00																					
	85	POLEACU			00																									
	86	RHINMIN			00																									
7	87	FESTSCA	02		23		04		42		58		22		21		20		10		34		18		11		18		19	
	88	AGROTRA	01		16		01		02		12		03		06		04		02		11		13				06		00	
	89	ELYMINN	04		02		05		14		09		12		07		11		06		01		17		01		03		00	
	90	KOELMAC			00		00		00						05				01		00		00		01		00		00	
	91	BROMCIL	00								00		04		02		08													
	92	JUNCBAL			00		00		01		06		03		03		03		03				00							
	93	POA PRA			00		00		00		02		00		00		02		05				00							
	94	CAREOBT	02								12																			
	95	BROMINE							00										00		02				03		01		04	
	96	HELIHOO																	00		00		01		00				00	
	97	CAREPRE			00		01		04				02		07		06										00		01	
	98	POA SPP																									14		08	
	99	CARESPP																	03				05		07					
	100	CAREXER																												
	101	FESTSAX													05															
	102	PHLEPRA			00		00		00										07											
	103	FESTIDA											01		05		00													
	104	CAREATR																												
	105	BROMPUM																												
	106	KOBRMYO																			09									
	107	CARESP2																												
	108	DANTPAR																			00				05					
	109	AGROSMI									03		00																	
	110	HIEROOO																												
	111	DANTCAL																												
	112	FESTOVI																												
	113	DESCCES			00		00																							
	114	CARESP1																												
	115	CARESIC																							09					
	116	STIPVIR																												
	117	CAREFIL															1													
	118	AGROELY							01																					
	119	POA ALP																												
	120	AGROSTO							00																					

(Continued)

RESOURCE INVENTORY, EDMONTON ALBERTA

Group name: Rough fescue-Hairy wildrye

			Plots																									
			YC850		UJR81I		UJR85I		UJR88I		UJR91I		UJR94I		UJR97I		UJR00I		PANT02		PANT13		PANT03		PANT43		PANT50		PANT26	
			Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																												
8	121	OXYTSER																									01			
	122	MOSSSPP																	01											
	123	ANEMMUL																									00			
	124	AGOSGLA																									00			
	125	DODECON																									00			

(Continued)

Group name: Rough fescue-Hairy wildrye

			Plots															
			PANT22		PANT40		PANT44		PANT59		PANT06		PANT20		FM03		FM02	
			Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																
5	1	POTEFRU	03		31		04		08		10		02				00	
	2	ARCTUVA			03								04				11	
	3	ROSAACI	00										01					
	4	POPUTRE									00							
	5	POTEGRA																
6	6	POTEGRA	01		04		00		03		00		01					
	7	ACHIMIL	00		03		00		00				01		06			
	8	GALIBOR	00		00		00				00		00		01		00	
	9	GEUMTRI			03				08						21		15	
	10	VICIAME	03		04		01				04		00				02	
	11	AGOSGLA	01				00		01		01		01		06		00	
	12	CERAARV	02		00		01		00		00		00		00		00	
	13	CAMPROT	03		02		01		00		00		01				00	
	14	DELPGLA							00		00						00	
	15	TARAOFF			00													
	16	THALVEN															00	
	17	FRAGVIR	00		03				03				07					
	18	DODECON	00		00		00				00		00					
	19	ASTELAE			00		01											
	20	EPILANG	00				01		00						01			
	21	ANEMMUL	02		00		01		00		02		00		02			
	22	ASTRALP									01				02		00	
	23	LINULEW			00													
	24	ALLICER			00		00		00		00							
	25	ZIZIAPT																
	26	SMILSTE	00				00						00					
	27	OXYTSER	03		01		07		05		01		00		11			
	28	HEDYBOR	02		00		00		06				11					
	29	MERTPAN													05			
	30	ANTEPAR			02		00		00		00							
	31	STELLON																
	32	RUMEACE																
	33	VIOLADU																
	34	SOLIMIS	00		00				01				03					
	35	LATHOCH			00													
	36	OXYTMON															07	
	37	ARTEFRI	00				01											
	38	MYOSALP	00		00		00		00								1	
	39	GENTAMA											00					
	40	ASTECIL													01			

(Continued)

RESOURCE INVENTORY, EDMONTON ALBERTA

Group name: Rough fescue-Hairy wildrye

			Plots															
			PANT22		PANT40		PANT44		PANT59		PANT06		PANT20		FM03		FM02	
			Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																
6	41	ERIGSPP			00		01		01								00	
	42	RUMEOCC																
	43	SOLIMUL													01		01	
	44	HEUCRIC											00					
	45	GAILARI	00						01		00							
	46	ARTELUD							03									
	47	ASTEALP																
	48	PENSPRO																
	49	TRIFREP																
	50	BOTRLUN																
	51	HEDYALP													05		00	
	52	GERARIC																
	53	ANDRSEP	00				00											
	54	SENEPAU													00		00	
	55	ARABHIR																
	56	ASTECON																
	57	GEUMALE																
	58	POTEANS					02											
	59	HEDYSUL									02							
	60	ANDRCHA							02									
	61	PLANMAJ																
	62	CASTFLA							01									
	63	POTEDIV																
	64	HETEVIL									01							
	65	POTEPEN													01			
	66	SONCARV																
	67	HIERCYN																
	68	ANTELAN																
	69	HIERUMB																
	70	VALEDIO															00	
	71	MIMUGUT																
	72	POLEPUL																
	73	GENTGLA													00			
	74	POTEFRU																
	75	RANUCAR																
	76	SISYMON													00			
	77	ANAPMAR																
	78	OXYTSPL															1	
	79	GENTCAL																
	80	PENSCON																

(Continued)

Group name: Rough fescue-Hairy wildrye

			Plots															
			PANT22		PANT40		PANT44		PANT59		PANT06		PANT20		FM03		FM02	
			Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																
6	81	POTEARG																
	82	ZIGAELE									00							
	83	ARNICHA																
	84	GEUMMAC																
	85	POLEACU																
	86	RHINMIN																
7	87	FESTSCA	14		21		10		15		28		15		32		43	
	88	AGROTRA	00		03						02		00		22		12	
	89	ELYMINN	02		01		05		08		03		18		17		02	
	90	KOELMAC	04		00		01		00		00							
	91	BROMCIL									02				01		02	
	92	JUNCBAL															00	
	93	POA PRA																
	94	CAREOBT																
	95	BROMINE	02				00		04				07					
	96	HELIHOO	01		00		01		00		00							
	97	CAREPRE													13		02	
	98	POA SPP			00				02		00		03					
	99	CARESPP							03									
	100	CAREXER	05		11		08		02									
	101	FESTSAX	02												00			
	102	PHLEPRA											00					
	103	FESTIDA																
	104	CAREATR																
	105	BROMPUM																
	106	KOBRMYO													12		37	
	107	CARESP2											01					
	108	DANTPAR	02								06							
	109	AGROSMI																
	110	HIERODO																
	111	DANTCAL																
	112	FESTOVI			00		00											
	113	DESCCES																
	114	CARESP1									11							
	115	CARESIC																
	116	STIPVIR																
	117	CAREFIL																
	118	AGROELY															1	
	119	POA ALP															00	
	120	AGROSTO																

(Continued)

RESOURCE INVENTORY, EDMONTON ALBERTA

Group name: Rough fescue-Hairy wildrye

			Plots															
			PANT22		PANT40		PANT44		PANT59		PANT06		PANT20		FM03		FM02	
			Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																
8	121	OXYTSER																
	122	MOSSSPP																
	123	ANEMMUL																
	124	AGOSGLA																
	125	DODECON																

RESOURCE INVENTORY, EDMONTON ALBERTA

Group name: Bog birch/R.fescue/Bearberry

					Plots																							
			Avg	Avg	EC910		EC91I		EC940		EC94I		EC971		EC970		EC00I		EC000		SMB065		SMB086		SMBI00		SMB000		SCAM90	
			% P	MC	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																												
5	1	BETUGLA	0100	32.2	41		14		23		15		12		32		20		32		28		35		30		26		42	
	2	POTEFRU	66.7	01.4							00						01		00		01		01		04		01		00	
	3	SALIMYR	36.1	00.5					00				00		00						03		01				00		03	
	4	SALISPP	14.3	00.7																										
	5	SALIBEB	09.5	02.0																										
	6	ARCTUVA	04.8	00.5																										
	7	SALIATH	04.8	00.0					00																					
6	8	FRAGVIR	0100	02.6	00		00		02		00		00		01		00		00		00		01		02		02		02	
	9	ACHIMIL	0100	02.6	02		00		05		01		00		03		01		03		03		04		02		02		02	
	10	GEUMTRI	90.5	05.5	01		03		01		03		02		04		02		01		09		09		19		13		11	
	11	GALIBOR	81.0	01.1	00		00		01		01		01		00		01		00		02		04				00		02	
	12	AGOSGLA	76.2	00.7	02		01		02		00		00		01				00		00		01		00				01	
	13	ARCTUVA	71.4	09.1	07		24		06		20		12		05		14		06		13		15		08		02		24	
	14	ASTRALP	71.4	01.6	01				01				00		10		00		01		00		02		01		02		00	
	15	PENSPRO	66.7	01.3	03		00		02		01		00		02		00				00		02							
	16	ZIZIAPT	66.7	00.5	00		00		00		00		01		01		00		00		00		00		00		00		00	
	17	VICIAME	61.9	01.3																	03		02		00		00		00	
	18	EPILANG	57.1	01.7																	00		02		01		00		00	
	19	ASTELAE	57.1	01.5							00		00						00		03		06				00			
	20	TARAOFF	57.1	00.4	02		00		00				00				00		01		01		00		01		01			
	21	CERAARV	52.4	00.3	00				00				00		00				00				02							
	22	SOLIMUL	42.9	01.0					06		01		01		02		00		01											
	23	THALVEN	42.9	00.7																	01		02		02		01		04	
	24	DELPGLA	42.9	00.7																	00		00		00				01	
	25	LATHOCH	42.9	00.6																	01		00		01		00		00	
	26	POTEHIP	36.1	01.0	02		02		04		01		01		02		03		02											
	27	VIOLADU	36.1	00.5	02				00		00		00		02		00		02				00							
	28	POTEGRA	36.1	00.4									00		00		00								01		00		00	
	29	POLYVIV	36.1	00.3	00		00		00		00		00		01				01								00			
	30	VACCCAE	33.3	01.8	08		02		07		05		03		05				03											
	31	CREPRUN	33.3	01.1					06		01		01		07		01		04											
	32	ANTEPAR	33.3	00.2	00				00		00				00				01											
	33	CAMPROT	33.3	00.1					01		00		00		00						00								00	
	34	HEDYALP	26.6	01.0																	05		02						00	
	35	SOLIMIS	26.6	00.5	05		00														01						00		01	
	36	RUBUARC	26.6	00.4	01				01						02				01		00		00							
	37	OXYTSER	26.6	00.3																										
	38	GENTAMA	26.6	00.1	00				01										00		00								00	
	39	HEDYBOR	19.0	00.4																										
	40	STELLON	19.0	00.3					00										00		03		01							

(Continued)

RESOURCE INVENTORY, EDMONTON ALBERTA

Group name: Bog birch/R.fescue/Bearberry

					Plots																							
			Avg	Avg	EC910		EC91I		EC940		EC94I		EC971		EC970		EC00I		EC000		SMB085		SMB086		SMBI00		SMB000		SCAM90	
			% P	MC	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																												
6	41	OXYTSPL	14.3	00.3																			03				02			
	42	POTEDIV	14.3	00.1																										
	43	ASTECIL	09.5	00.4																					01				06	
	44	SENECAN	09.5	00.1	02		00																							
	45	VALESIT	09.5	00.1																					02		00			
	46	SENEPAU	09.5	00.1																	00									
	47	MOEHLAT	09.5	00.0															00											
	48	ANDRCHA	09.5	00.0																	00									
	49	CIRSUND	09.5	00.0																			00		00					
	50	RUMEOCC	09.5	00.0																										
	51	SMILSTE	09.5	00.0																			00						00	
	52	ANEMLIT	09.5	00.0					00		00																			
	53	MERTPAN	04.8	00.3																										
	54	SAXITRI	04.8	00.2																										
	55	PENSCON	04.8	00.2															03											
	56	VALEDIO	04.8	00.0																	00									
	57	ANTEANA	04.8	00.0																										
	58	DODECON	04.8	00.0																										
	59	GENTCAL	04.8	00.0											00															
	60	HEUCRIC	04.8	00.0					00																					
	61	SENEINT	04.8	00.0																										
	62	ANTELAN	04.8	00.0																							00			
	63	CIRSVUL	04.8	00.0																	00									
	64	RANURHO	04.8	00.0															00											
	65	VIOLCAN	04.8	00.0																									00	
7	66	FESTSCA	0100	27.8	29		81		12		45		29		10		19		16		27		35		25		24		36	
	67	CAREPRE	66.7	06.7	16		02		08		04				04		05		08		15		21		06		07			
	68	ELYMINN	66.7	04.1	00		00														08		04				08		09	
	69	DANTCAL	66.7	02.7	05		07		11		06		00		01		01		01		05		00						01	
	70	AGROTRA	61.9	02.6					01		00		00		01		00		00						04		04			
	71	DANTPAR	38.1	01.8					00				03		15		03		12						01		00			
	72	FESTSAX	33.3	01.0					11				00		01				05											
	73	AGROELY	23.8	03.1																	17		04		11				11	
	74	BROMCIL	23.8	01.3															00		04		19		04		00			
	75	CARESIC	23.8	00.5	02				02		00				02														02	
	76	CARESPP	19.0	01.1																										
	77	POA PRA	19.0	00.3					02						01						01		00							
	78	SCHIPUR	14.3	00.7																	00								07	
	79	KOBRMYO	14.3	00.4																							00			
	80	BROMINE	14.3	00.4																										

(Continued)

Group name: Bog birch/R.fescue/Bearberry

			Avg	Avg	Plots																							
					EC910		EC911		EC940		EC941		EC971		EC970		EC001		EC000		SMB085		SMB086		SMB100		SMB000		SCAMB0	
			% P	MC	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																												
7	81	DESCCES	14.3	00.2	02				02						00															
	82	FESTIDA	09.5	00.5	08																		01							
	83	LUZUMUL	09.5	00.1					01		00																			
	84	POA INT	09.5	00.1																										
	85	JUNCBAL	09.5	00.0																					00					
	86	PHLECOM	09.5	00.0											00				00											
	87	BROMPUM	09.5	00.0									00																	
	88	MUHLCUS	09.5	00.0																										
	89	KOELMAC	04.8	00.4																										
	90	CAREOBT	04.8	00.3									05																	
	91	CAREATR	04.8	00.1																					01					
	92	CAREAUR	04.8	00.0																							00			
	93	POA COM	04.8	00.0	00																									
	94	FESTRUB	04.8	00.0																	00									
	95	CALAMON	04.8	00.0													00													
	96	AGROMER	04.8	00.0					00																					
	97	AGROSCA	04.8	00.0																										
	98	POA ALP	04.8	00.0															00											
	99	CALAGAN	04.8	00.0																	00									
8	100	MOSSSPP	66.7	27.2	30		40		15		67		40		15		85		17											
9	101	PELTCAN	19.0	00.3					00		03		02																	
	102	CLADSPP	09.5	00.0					00		00																			

(Continued)

RESOURCE INVENTORY, EDMONTON ALBERTA

Group name: Bog birch/R.fescue/Bearberry

			Plots															
			UNBUSO		PANT31		PANT37		PANT57		PANT47		RF01		RF02		RF03	
			Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																
5	1	BETUGLA	70		39		24		62		30		33		20		40	
	2	POTEFRU	03		02		06				04				01		00	
	3	SALIMYR	02															
	4	SALISPP			07								01		06			
	5	SALIBEB							26		16							
	6	ARCTUVA			10													
	7	SALIATH																
6	8	FRAGVIR	04		01		02		00		04		05		09		08	
	9	ACHIMIL	03		01		03		00		02		05		02		01	
	10	GEUMTRI	05		06		07		01						05		07	
	11	GALIBOR	02		00				00		00						01	
	12	AGOSGLA			00						00		00		00		01	
	13	ARCTUVA											15				15	
	14	ASTRALP							00		02		01				07	
	15	PENSPRO					05				01		03		03		01	
	16	ZIZIAPT	02															
	17	VICIAME	02		02		08		01		02		01		01		00	
	18	EPILANG	04				02		02		06		02		08		03	
	19	ASTELAE			03		00		00		05				03		07	
	20	TARAOFF							00				00					
	21	CERAARV			00						00		00		00		00	
	22	SOLIMUL											05		01		01	
	23	THALVEN	02						00		00						00	
	24	DELPGLA			01		00				06				00		02	
	25	LATHOCH											03		02		01	
	26	POTEHIP																
	27	VIOLADU																
	28	POTEGRA					04				01							
	29	POLYVIV																
	30	VACCCAE																
	31	CREPRUN													00			
	32	ANTEPAR			00												00	
	33	CAMPROT													00			
	34	HEDYALP											05		05		01	
	35	SOLIMIS							00									
	36	RUBUARC																
	37	OXYTSER			00		00		00		00				00		04	
	38	GENTAMA			00												1	
	39	HEDYBOR			01		02		05		00							
	40	STELLON																

(Continued)

Group name: Bog birch/R.fescue/Bearberry

			Plots															
			UNBUGO		PANT31		PANT37		PANT57		PANT47		RF01		RF02		RF03	
			Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																
6	41	OXYTSPL															01	
	42	POTEDIV											01		01		00	
	43	ASTECIL																
	44	SENECAN																
	45	VALESIT																
	46	SENEPAU			01													
	47	MOEHLAT													00			
	48	ANDRCHA							00									
	49	CIRSUND																
	50	RUMEOCC					00				00							
	51	SWILSTE																
	52	ANEMLIT																
	53	MERTPAN									05							
	54	SAXITRI															03	
	55	PENSCON																
	56	VALEDIO																
	57	ANTEANA			00													
	58	DODECON					00											
	59	GENTCAL																
	60	HEUCRIC																
	61	SENEINT											00					
	62	ANTELAN																
	63	CIRSVUL																
	64	RANURHO																
	65	VIOLCAN																
7	66	FESTSCA	27		22		31		10		10		26		27		37	
	67	CAREPRE											07		20		13	
	68	ELYMINN	05		02		00		07		07		07		16		09	
	69	DANTCAL	12												00		00	
	70	AGROTRA					04				05		07		15		08	
	71	DANTPAR									00							
	72	FESTSAX											01		00		00	
	73	AGROELY	22															
	74	BROMCIL																
	75	CARESIC																
	76	CARESPP			12		06		01		01							
	77	POA PRA																
	78	SCHIPUR	07															
	79	KOBRMYO											06				02	
	80	BROMINE			00		01				07							

(Continued)

RESOURCE INVENTORY, EDMONTON ALBERTA

Group name: Bog birch/R.fescue/Bearberry

			Plots													
			UNBU90		PANT31		PANT37		PANT57		PANT47		RF01		RF02		RF03	
			Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																
7	81	DESCCES																
	82	FESTIDA																
	83	LUZUMUL																
	84	POA INT													00		00	
	85	JUNCBAL									00							
	86	PHLECOM															00	
	87	BROMPUM															00	
	88	MUHLCUS													00		00	
	89	KOELMAC	07															
	90	CAREOBT																
	91	CAREATR																
	92	CAREAUR																
	93	POA COM																
	94	FESTRUB																
	95	CALAMON																
	96	AGROMER																
	97	AGROSCA					00											
	98	POA ALP																
	99	CALACAN																
8	100	MOSSSPP			34				87		71		14		23		27	
9	101	PELTCAN											01					
	102	CLADSPP																

Group name: Rough fescue-Tufted hairgrass

			Avg	Avg	Plots															
					HC91I		HC94I		HC97I		HC00I		EN98		EN99		EN00		WCT01	
			% P	MC	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																		
5	1	POTEFRU	37.5	00.8					01		01								03	
	2	BETUGLA	12.5	00.4															03	
6	3	ACHIMIL	0100	04.1	02		08		05		03		03		04		03		01	
	4	GALIBOR	0100	01.6	01		02		01		01		02		01		01		00	
	5	RUMEACE	0100	00.7	01		00		00		00		00		01		01		00	
	6	THALVEN	87.5	04.3	05		07		06		02		04				04		02	
	7	POTEGRA	87.5	02.1			02		04		01		03		00		00		03	
	8	CERAARV	87.5	00.7	01		02		00		00		00		00		00			
	9	FRAGVIR	87.5	00.7	00		00		01		00		01		00		00			
	10	PENSPRO	75.0	06.6	06		11		18						09		05		01	
	11	MERTPAN	62.5	01.3					00		00		03		03		02			
	12	CAMPROT	62.5	00.2			00		00		00		00		00					
	13	GEUMTRI	50.0	01.5	01		03		05		02									
	14	DELPGLA	50.0	00.3									00		00		00		00	
	15	ARNICHA	50.0	00.2	00				00				00				00			
	16	VICIAME	50.0	00.1	00		00		00		00									
	17	AGOSGLA	50.0	00.1	00		00						00						00	
	18	ASTELAE	37.5	02.2	04		09		02											
	19	ACONDEL	37.5	01.1									02		02		04			
	20	EPILANG	37.5	00.2									00		00		00			
	21	ZIZIAPT	37.5	00.2					01								00		00	
	22	SOLIMUL	37.5	00.2	00						00								00	
	23	ASTRALP	37.5	00.1									00		00		00			
	24	TARAOFF	37.5	00.1			00		00		00									
	25	RUBUARC	37.5	00.1									00		00		00			
	26	PENSCON	25.0	03.8							20		10							
	27	POTEARG	25.0	00.9	04		02													
	28	POTEDIV	25.0	00.5					00						03					
	29	POTEHIP	25.0	00.4							00						02			
	30	DRABSPP	25.0	00.2											01		00			
	31	VIOLADU	25.0	00.0	00		00													
	32	ASTECIL	12.5	00.3							02									
	33	CIRSUND	12.5	00.1							01									
	34	STELLON	12.5	00.1			01													
	35	SENEPAU	12.5	00.1									00							
	36	VALESIT	12.5	00.1							00									
	37	GEUMALE	12.5	00.1			00													
	38	ARCTUVA	12.5	00.1															00	
	39	ANTELAN	12.5	00.0			00										1			
	40	PEDIGRO	12.5	00.0															00	

(Continued)

RESOURCE INVENTORY, EDMONTON ALBERTA

Group name: Rough fescue-Tufted hairgrass

					Plots															
			Avg	Avg	HC91I		HC94I		HC97I		HC00I		EN98		EN99		EN00		WCT01	
			% P	MC	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																		
6	41	DODECON	12.5	00.0							00									
	42	GEUMMAC	12.5	00.0									00							
	43	PLANPAT	12.5	00.0															00	
	44	POLYVIV	12.5	00.0													00			
7	45	FESTSCA	0100	16.7	28		08		07		21		20		12		16		19	
	46	DESCCES	0100	15.2	23		16		13		12		14		12		10		19	
	47	CAREPRE	0100	07.6	02		06		03		04		08		10		04		22	
	48	AGROTRA	75.0	03.3	06		06		04		05				01				02	
	49	JUNCBAL	75.0	00.5	00		00		00		00						00		01	
	50	ELYMINN	50.0	05.1									11		10		10		08	
	51	FESTSAX	50.0	00.5							00		01		01		00			
	52	SCHIPUR	37.5	01.0									00		00		06			
	53	POA COM	37.5	00.6	01				01		02									
	54	DANTCAL	25.0	00.4													00		03	
	55	POA PRA	25.0	00.3			01				00									
	56	HIERODO	25.0	00.2	01		00													
	57	CARESPP	25.0	00.2			00						01							
	58	BROMCIL	25.0	00.1					00		00									
	59	PHLECOM	25.0	00.1											00		00			
	60	TRISSPI	25.0	00.1									00				00			
	61	BROMPUM	12.5	00.5			03													
	62	CAREMAC	12.5	00.3					02											
	63	CAREATR	12.5	00.2									01							
	64	CALARUB	12.5	00.2					01											
	65	KOELMAC	12.5	00.1							00									
	66	POA ALP	12.5	00.1													00			
	67	FESTBRA	12.5	00.0			00													
8	68	MOSSSPP	12.5	02.8															22	
9	69	CLADSPP	37.5	00.4									01		01		00			
	70	PELTCAN	25.0	00.3									01		01					
	71	CETRNIV	12.5	00.1											00					

Group name: Harrison flats

			Avg	Avg	Plots											
					H183		H187		H195		H383		H387		H395	
			% P	MC	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES														
5	1	POTEFRU	0100	09.9	10		05		02		15		13		13	
	2	JUNIHOR	16.7	00.8	05											
	3	SALISPP	16.7	00.0							00					
6	4	THALVEN	0100	02.9	00		05		01		04		05		01	
	5	GALIBOR	0100	01.2	01		01		00		01		02		00	
	6	OXYTMON	83.3	08.7	10		26		06		07				01	
	7	ACHIMIL	83.3	03.9	00		10				01		07		03	
	8	HEDYALP	83.3	02.6	00				00		00		13		00	
	9	ERIGCAE	83.3	01.4	00		05		02		00				00	
	10	AGOSGLA	83.3	01.3			00		00		01		01		04	
	11	CERAARV	83.3	01.0	00		01				01		01		01	
	12	GEUMTRI	66.7	07.3	00						20		17		05	
	13	DELPGLA	66.7	02.2					00		00		07		04	
	14	CAMPROT	66.7	01.5	00		05		02		00					
	15	STELLON	66.7	00.6	01				01		00		00			
	16	ANTEPAR	50.0	03.2	06		12				00					
	17	TARAOFF	50.0	00.6			00				00		02			
	18	CREPRUN	50.0	00.5					00		00				02	
	19	ANEMMUL	50.0	00.5	00				02		00					
	20	POTEDIV	50.0	00.2							00		00		00	
	21	SISYMON	50.0	00.2					00				00		00	
	22	POTEGRA	50.0	00.1					00		00		00			
	23	ANDRCHA	33.3	02.1			10		02							
	24	SELADEN	33.3	01.7	05		05									
	25	ARTEFRI	33.3	01.0	05		01									
	26	RUMEACE	33.3	00.5							00		02			
	27	LINULEW	33.3	00.4									00		02	
	28	ZIZIAPT	33.3	00.2							00		00			
	29	GENTAMA	33.3	00.1	00						00					
	30	ASTRALP	33.3	00.1									00		00	
	31	ARNIFUL	16.7	01.1									06			
	32	ARCTUVA	16.7	00.8	05											
	33	POTEPEN	16.7	00.8			05									
	34	ASTECIL	16.7	00.5									03			
	35	ASTRBOU	16.7	00.2							01					
	36	SOLIMUL	16.7	00.2			01									
	37	RANUCYM	16.7	00.1											00	
	38	DODEPUL	16.7	00.1											00	
	39	OXYTDEF	16.7	00.0							00					
	40	VIOLADU	16.7	00.0											00	

(Continued)

RESOURCE INVENTORY, EDMONTON ALBERTA

Group name: Harrison flats

			Avg	Avg	Plots											
					H183		H187		H195		H383		H387		H395	
			% P	MC	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES														
6	41	ARABHIR	16.7	00.0							00					
	42	PENSPRO	16.7	00.0					00							
	43	SAXISPP	16.7	00.0					00							
7	44	FESTSCA	0100	34.9	30		38		26		62		31		21	
	45	CAREPRE	83.3	13.2	00		15		05				42		16	
	46	KOELMAC	83.3	06.4	10		18		08		01		00			
	47	AGROTRA	66.7	05.6					03		11		18		00	
	48	HELIHOO	66.7	01.6	06		00		02		00					
	49	FESTSAX	66.7	01.0	02				00		00				03	
	50	BROMPUM	33.3	03.3			00						19			
	51	AGROELY	33.3	01.3							04				03	
	52	DESCCES	33.3	01.1							00		06			
	53	MUHLRIC	33.3	01.0					02		03					
	54	AGRODAS	33.3	00.9	05						00					
	55	JUNCBAL	33.3	00.7									01		03	
	56	CARESPP	33.3	00.3					00		01					
	57	HIERODO	33.3	00.3			01						01			
	58	POA PRA	33.3	00.1							00				00	
	59	ELYMINN	16.7	00.5											02	
	60	CALAMON	16.7	00.2			01									
	61	CAREPRA	16.7	00.1							00					
	62	DANTCAL	16.7	00.1											00	
	63	KOBRMYO	16.7	00.0	00											
	64	POA INT	16.7	00.0	00											
	65	FESTRUB	16.7	00.0							00					
8	66	MOSSSPP	33.3	00.4	01						00					
9	67	LICHEN	16.7	00.3	01											

Group name: Ya Ha Tinda (R.fescue-H.wildrye

			Avg	Avg	Plots													
					YE03		YE05		YE06		YE02		YE07		YE01		YE09	
			% P	MC	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg	Cv	Vg
LAYER	n	SPECIES																
5	1	POTEFRU	85.7	02.0	00		02		01		02		01				04	
	2	POPUTRE	28.6	00.2			00										00	
	3	BETUGLA	14.3	00.6	04													
	4	SALIGLA	14.3	00.2	01													
	5	ROSAACI	14.3	00.1													01	
6	6	CAMPROT	0100	01.1	00		03		00		00		02		00		01	
	7	OXYTMON	85.7	07.8	01		03				01		12		27		07	
	8	HEDYALP	85.7	02.8	00		05		09		00		03				00	
	9	AGOSGLA	85.7	01.7	01		01				01		02		04		00	
	10	GALIBOR	85.7	01.3	00		03				02		01		01		00	
	11	ANTEPAR	85.7	01.0	00		00		00		01				03		00	
	12	ASTELAE	85.7	00.7	00		01		01		00		00		00			
	13	GEUMTRI	71.4	09.0	03		14		03		12		12					
	14	ANEMMUL	71.4	01.5					01		02		01		03		01	
	15	ANDRCHA	71.4	00.8	00		00		00		02		02					
	16	POTEGRA	71.4	00.5			01		00		00		01		00			
	17	ACHIMIL	57.1	02.4	00		08		04				02					
	18	THALOCC	57.1	00.9					02		00		01		02			
	19	ARTEFRI	57.1	00.4					00				01		00		00	
	20	CERAARV	57.1	00.2	00				00				00				00	
	21	ANTELAN	42.9	02.2					09				03				02	
	22	VICIAME	42.9	01.5	05		04										00	
	23	OXYTSPL	42.9	01.1			00		00		06							
	24	ASTECIL	42.9	00.5					01		01		00					
	25	VIOLADU	42.9	00.1					00		00		00					
	26	COMAUMB	28.6	00.7			03										01	
	27	LINULEW	28.6	00.4					00		02							
	28	SOLIMUL	28.6	00.4			00										02	
	29	THALVEN	28.6	00.4	01		01											
	30	FRAGVIR	28.6	00.4	01		01											
	31	DELPGLA	28.6	00.3	01				01									
	32	ZIZIAPT	28.6	00.1	00				00									
	33	EPILANG	28.6	00.1	00		00											
	34	SMILSTE	14.3	00.4					02									
	35	ANTEROS	14.3	00.3	02													
	36	OXYTSER	14.3	00.3					02									
	37	LATHOCH	14.3	00.1			00											
	38	HIERUMB	14.3	00.0	00													
	39	PENSPRO	14.3	00.0	00												1	
	40	POTEDIV	14.3	00.0					00									

(Continued)

VE[redacted]ON [redacted] [redacted] [redacted]

Group name: Ya Ha Tinda (Sedge-Junegrass)

					Plots			
			Avg	Avg	YW01		YW03	
			% P	MC	Cv	Vg	Cv	Vg
LAYER	n	SPECIES						
5	1	POTEFRU	0100	07.6	09		05	
6	2	OXYTSPL	0100	03.2	06		00	
	3	ANEMMUL	0100	03.1	02		03	
	4	GEUMTRI	0100	02.1	01		02	
	5	OXYTMON	0100	01.6	00		03	
	6	CAMPROT	0100	00.8	01		00	
	7	CERAARV	0100	00.5	00		00	
	8	AGOSGLA	0100	00.4	00		00	
	9	POTEDIV	0100	00.4	00		00	
	10	VALEDIO	50.0	01.9			03	
	11	ARTEFRI	50.0	01.4	02			
	12	ZIGAELE	50.0	01.1	02			
	13	SMILRAC	50.0	00.8	01			
	14	ANDRCHA	50.0	00.8	01			
	15	THALVEN	50.0	00.6	01			
	16	VIOLADU	50.0	00.5	01			
	17	ANTEPAR	50.0	00.3			00	
	18	OXYTSER	50.0	00.1	00			
	19	POTEGRA	50.0	00.1	00			
	20	GALIBOR	50.0	00.1	00			
7	21	CARESPP	0100	06.3	06		06	
	22	KOELMAC	0100	05.2	06		04	
	23	POA PRA	0100	03.3	02		04	
	24	FESTSAX	0100	02.9	01		04	
	25	POA SEC	0100	01.3	01		01	
	26	ELYMINN	0100	00.9	00		01	
	27	AGROREP	50.0	01.0	02			
	28	BROMINE	50.0	00.6	01			
	29	DANTPAR	50.0	00.2			00	
9	30	LICHEN	0100	06.8	01		12	